

Amendments to the Claims

Please cancel Claims 12, 24, 36 and 48 without prejudice. Please amend Claims 1, 4-7, 13, 16-19, 25, 28-31, 37, 40-43 and 49-72. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1. (Currently amended) A method for setting up a call within a wireless communication system, wherein the wireless communication system is deployed to provide call services to mobile stations (MS) operating in a private network, the method comprising the steps of:

receiving a request at a mobile station to originate a ~~special call services (SCS)~~ call, the ~~SCS call request~~ specifying a phone number associated with a private service that is ~~specially~~ supported by the private network;

using the phone number to locate a service code in a cause table that maps phone numbers to service codes wherein the service code identifies the private service;

coding a service type field contained in a request message to indicate the private service ~~specified~~ identified by the ~~SCS call~~ located service code; and

sending the request message from the mobile station to base station equipment for call setup within the private network.

2. (Original) A method as in claim 1 wherein the wireless communication system operates according to certain functional layers, including a radio resource (RR) functional layer (RR), a mobility management (MM) functional layer, and a connection management (CM) functional layer, with at least the radio resource functional layer being normally assumed to be a transport mechanism for the mobility management and connection management layer functions.

3. (Original) A method as in claim 2 wherein the wireless communication system is a Global System for Mobile (GSM) system.

4. (Currently amended) A method as in claim 3 wherein the service type field in the SCS request message is defined using reserved GSM service type codes.
5. (Currently amended) A method as in claim 2 wherein the ~~service~~ request message is coded at a mobility management (MM) layer.
6. (Currently amended) A method as in claim 2 wherein the radio resource (RR) functional layer additionally performs the steps of:
 - detecting a newly added special call services (SCS) causes request; and
 - granting physical resources to service a the SCS causes request depending upon ~~the~~ an SCS cause type and a state of other call types already in process.
7. (Currently amended) A method as in claim 6 wherein the step of granting physical resources additionally comprises the steps of:
 - dropping a normal call-in-process in order to accommodate the SCS call if there are no other free physical resources left; and
 - prioritizing SCS calls in progress.
8. (Original) A method as in claim 6 wherein the step of granting physical resources additionally comprises the step of:
 - allocating radio resources to the call that are reserved in advance for servicing SCS calls.
9. (Original) A method as in claim 1 wherein the private service specific call is a private emergency call.
10. (Original) A method as in claim 1 wherein the request message is a channel request message.
11. (Original) A method as in claim 1 wherein the request message is a service request message.

12. (Canceled)

13. (Currently amended) In a wireless communication system deployed to provide call services to mobile stations (MS) operating in a private network, an apparatus for setting up a call comprising:

a user interface, for receiving a request at a mobile station to originate a ~~special-call services (SCS)~~ call, the ~~SCS~~ call specifying a phone number associated with a private service that is ~~specially~~ supported by the private network;

a table configured to map phone numbers to service codes;

a message coder configured to use the phone number to locate a service code in the table that identifies the private service and code, ~~for coding~~ a service type field in a request message to indicate the private service ~~specified~~ identified by the ~~SCS-call~~ located service code; and

a transmitter, for sending the request message from the mobile station to base station equipment for call setup within the private network.

14. (Original) An apparatus as in claim 13 wherein the wireless communication system operates according to certain functional layers, including a radio resource (RR) functional layer (RR), a mobility management (MM) functional layer, and a connection management (CM) functional layer, with at least the radio resource functional layer being normally assumed to be a transport mechanism for the mobility management and connection management layer functions.

15. (Original) An apparatus as in claim 14 wherein the wireless communication system is a Global System for Mobile (GSM) system.

16. (Currently amended) An apparatus as in claim 15 wherein the service type field in the ~~SCS~~ request message is defined using reserved GSM service type codes.

17. (Currently amended) An apparatus as in claim 14 wherein the ~~service~~ request message is coded at a mobility management (MM) layer.

18. (Currently amended) An apparatus as in claim 14 wherein the radio resource (RR) functional layer additionally comprises:
- a receiver, for receiving a newly added special call services (SCS) causes request; and
 - a physical resource manager, that ~~service services~~ a the SCS causes request depending upon ~~the~~ an SCS cause type and a state of other call types already in process.
19. (Currently amended) An apparatus as in claim 18 wherein the physical resource manager additionally drops a normal call-in-process in order to accommodate the ~~SCS~~ call if there are no other free physical resources left.
20. (Original) An apparatus as in claim 18 wherein the physical resource manager additionally allocates radio resources to the call that are reserved in advance for servicing SCS calls.
21. (Original) An apparatus as in claim 13 wherein the private service specific call is a private emergency call.
22. (Original) An apparatus as in claim 13 wherein the request message is a channel request message.
23. (Original) An apparatus as in claim 13 wherein the request message is a service request message.
24. (Canceled)
25. (Currently amended) A computer program product for setting up a call within a wireless communication system, wherein the wireless communication system is deployed to provide call services to mobile stations (MS) operating in a private network, the computer program product

comprising a computer usable medium having computer readable code thereon, comprising computer code which:

receives a request at a mobile station to originate a ~~special call services (SCS)~~ call, the SCS call specifying a phone number associated with a private service that is specially supported by the private network;

uses the phone number to locate a service code in a cause table that maps phone numbers to service codes wherein the service code identifies the private service;

codes a service type field contained in a request message to indicate the private service ~~specified~~ identified by the SCS call located service code; and

sends the request message from the mobile station to base station equipment for call setup within the private network.

26. (Original) A computer program product as in claim 25 wherein the wireless communication system operates according to certain functional layers, including a radio resource (RR) functional layer (RR), a mobility management (MM) functional layer, and a connection management (CM) functional layer, with at least the radio resource functional layer being normally assumed to be a transport mechanism for the mobility management and connection management layer functions.

27. (Original) A computer program product as in claim 25 wherein the wireless communication system is a Global System for Mobile (GSM) system.

28. (Currently amended) A computer program product as in claim 27 wherein the service type field in the SCS request message is defined using reserved GSM service type codes.

29. (Currently amended) A computer program product as in claim 26 wherein the ~~service~~ request message is coded at a mobility management (MM) layer.

30. (Currently amended) A computer program product as in claim 26 wherein the computer code contains a radio resource (RR) functional layer which:

detects a newly added special call service (SCS) causes request; and
grants physical resources to service a the SCS causes request depending upon ~~the~~ an SCS
cause type and a state of other call types already in process.

31. (Currently amended) A computer program product as in claim 30 wherein the computer code additionally:

drops a normal call-in-process in order to accommodate the SCS call if there are no other
free physical resources left; and
prioritizes SCS calls in progress.

32. (Original) A computer program product as in claim 30 wherein the computer code additionally:

allocates radio resources to the call that are reserved in advance for servicing SCS calls.

33. (Original) A computer program product as in claim 25 wherein the private service specific call is a private emergency call.

34. (Original) A computer program product as in claim 25 wherein the request message is a channel request message.

35. (Original) A computer program product as in claim 25 wherein the request message is a service request message.

36. (Canceled)

37. (Currently amended) In a wireless communication system deployed to provide call services to mobile stations (MS) operating in a private network, an apparatus for setting up a call comprising:

means for receiving a request at a mobile station to originate a ~~special call services (SCS)~~
call, the SCS call specifying a private service that is ~~special~~ supported by the private network;

means for using the phone number to locate a service code in a cause table that maps phone numbers to service codes wherein the service code identifies the private service;

means for coding a service type field contained in a request message to indicate the private service ~~specified~~ identified by the ~~SCS call~~ located service code; and

means for sending the request message from the mobile station to base station equipment for call setup within the private network.

38. (Original) An apparatus as in claim 37 wherein the wireless communication system operates according to certain functional layers, including a radio resource (RR) functional layer (RR), a mobility management (MM) functional layer, and a connection management (CM) functional layer, with at least the radio resource functional layer being normally assumed to be a transport mechanism for the mobility management and connection management layer functions.

39. (Original) An apparatus as in claim 38 wherein the wireless communication system is a Global System for Mobile (GSM) system.

40. (Currently amended) An apparatus as in claim 39 wherein the service type field in the ~~SCS~~ request message is defined using reserved GSM service type codes.

41. (Currently amended) An apparatus as in claim 38 wherein the ~~service~~ request message is coded at a mobility management (MM) layer.

42. (Currently amended) An apparatus as in claim 38 wherein the radio resource (RR) functional layer additionally comprises:

means for detecting a newly added special call services (SCS) causes request; and

means for granting physical resources to service a the SCS causes request depending upon ~~the~~ an SCS cause type and a state of other call types already in process.

43. (Currently amended) An apparatus as in claim 42 wherein the means for granting physical resources additionally comprises:

means for dropping a normal call-in-process in order to accommodate the SCS call if there are no other free physical resources left; and

means for prioritizing SCS calls in progress.

44. (Original) An apparatus as in claim 42 wherein the means for granting physical resources additionally comprises:

means for allocating radio resources to the call that are reserved in advance for servicing SCS calls.

45. (Original) An apparatus as in claim 37 wherein the private service specific call is a private emergency call.

46. (Original) An apparatus as in claim 37 wherein the request message is a channel request message.

47. (Original) An apparatus as in claim 37 wherein the request message is a service request message.

48. (Canceled)

49. (Currently amended) A method for setting up a call within a wireless communication system, wherein the wireless communication system is deployed to provide call services to mobile stations operating in a private network, the method comprising the steps of:

receiving a request message from a mobile station to reserve resources for a ~~new special~~ ~~call services (SCS)~~ call, wherein the request message specifies a cause code that represents an establishment cause associated with the call for a private service that is specially supported by the private network; and

granting resources to service the ~~new SCS~~ call depending upon the ~~private service~~ cause code specified in the request message and a state of other existing calls in the private network;

receiving a second request message from the mobile station containing a service type code associated with the private service;

using the service type code to determine if a user associated with the mobile station is authorized to request the private service; and

accepting the second request if the user is authorized to request the private service.

50. (Currently amended) A method as in claim 49 further comprising the step of:
dropping a normal call-in-process in the private network in order to accommodate the ~~new-SCS~~ call.
51. (Currently amended) A method as in claim 49 further comprising the steps of:
determining if an existing call in the private network can be dropped; and
if so, dropping the existing call to accommodate the ~~new-SCS~~ call.
52. (Currently amended) A method as in claim 49 wherein the request message specifies a priority of the ~~new-SCS~~ call.
53. (Currently amended) A method as in claim 52 further comprising the steps of:
determining if the ~~new-SCS~~ call's priority is higher in priority than a priority associated with an existing call in the private network; and
if so, dropping the existing call to accommodate the ~~new-SCS~~ call.
54. (Currently amended) A method as in claim 49 further comprising the step of:
allocating resources in the private network to the ~~new-SCS~~ call.
55. (Currently amended) An apparatus for setting up a call within a wireless communication system, wherein the wireless communication system is deployed to provide call services to mobile stations (MS) operating in a private network, the apparatus comprising:
a base transceiver station (BTS) configured to receive a request message from an MS for a ~~new-special call services (SCS)~~ call, wherein the request message specifies a cause code that

represents an establishment cause associated with the call for a private service that is specially supported by the private network; and

a base station controller (BSC) configured to:

grant resources to service the ~~new-SCS~~ call depending upon the ~~private-service~~ cause code specified in the request message and a state of other calls existing in the private network;

receive a second request message from the MS containing a service type code associated with the private service,

use the service type code to determine if a user associated with the mobile station is authorized to request the private service, and

accept the second request if the user is authorized to request the private service.

56. (Currently amended) An apparatus as in claim 55 wherein the BSC is further configured to drop a normal call-in-process in the private network in order to accommodate the ~~new-SCS~~ call.

57. (Currently amended) An apparatus as in claim 55 wherein the BSC is further configured to determine if an existing call in the private network can be dropped and if so, drop the existing call to accommodate the ~~new-SCS~~ call.

58. (Currently amended) An apparatus as in claim 55 wherein the request message specifies a priority of the ~~new-SCS~~ call.

59. (Currently amended) An apparatus as in claim 58 wherein the BSC is further configured to determine if the priority associated with the ~~new-SCS~~ call is higher in priority than a priority associated with an existing call in the private network and if so, drop the existing call to accommodate the ~~new-SCS~~ call.

60. (Currently amended) An apparatus as in claim 55 wherein the BSC is further configured to allocate resources in the private network to the ~~new-SCS~~ call.

61. (Currently amended) An apparatus for setting up a call within a wireless communication system, wherein the wireless communication system is deployed to provide call services to mobile stations (MS) operating in a private network, the apparatus comprising:

means for receiving a request message from an MS to reserve resources for a ~~new-special~~ ~~call-services (SCS)~~ call, wherein the request message specifies a cause code that represents an establishment cause associated with the call for a private service that is specially supported by the private network; and

means for granting resources to service the ~~new-SCS~~ call depending upon the ~~private service~~ cause code specified in the request message and a state of other calls in the private network;

means for receiving a second request message from the MS containing a service type code associated with the private service;

means for using the service type code to determine if a user associated with the MS is authorized to request the private service; and

means for accepting the second request if the user is authorized to request the private service.

62. (Currently amended) An apparatus as in claim 61 further comprising:

means for dropping a call-in-process in the private network in order to accommodate the ~~new-SCS~~ call.

63. (Currently amended) An apparatus as in claim 61 further comprising:

means for determining if an existing call in the private network can be dropped; and

means for dropping the existing call to accommodate the ~~new-SCS~~ call, if the existing call can be dropped.

64. (Currently amended) An apparatus as in claim 61 wherein the request message specifies a priority of the ~~new-SCS~~ call.

65. (Currently amended) An apparatus as in claim 64 further comprising:

means for determining if the ~~new-SCS~~ call's priority is higher in priority than a priority associated with an existing call in the private network; and

means for dropping the existing call if the ~~new-SCS~~ call's priority is higher in priority than the existing call's priority.

66. (Currently amended) An apparatus as in claim 61 further comprising:

means for allocating resources in the private network to accommodate the ~~new-SCS~~ call.

67. (Currently amended) A computer program product for setting up a call within a wireless communication system, wherein the wireless communication system is deployed to provide call services to mobile stations (MS) operating in a private network, the computer program product comprising a computer usable medium having computer readable code thereon, comprising computer code which:

receives a request message from an MS to reserve resources for a ~~new-special-call services-(SCS)~~ call, wherein the request message specifies a cause code that represents an establishment cause associated with the call for a private service that is specially supported by the private network; and

grants resources to service the ~~new-SCS~~ call depending upon the ~~private service~~ cause code specified in the request message and a state of existing calls in the private network;

receives a second request message from the MS containing a service type code associated with the private service;

uses the service type code to determine if a user associated with the MS is authorized to request the private service; and

accept the second request if the user is authorized to request the private service.

68. (Currently amended) A computer program product as in claim 67 wherein the computer code additionally:

drops a normal call-in-process in the private network in order to accommodate the ~~new~~ SCS call.

69. (Currently amended) A computer program product as in claim 67 wherein the computer code additionally:

determines if an existing call in the private network can be dropped; and
if so, drops the existing call to accommodate the ~~new-SCS~~ call.

70. (Currently amended) A computer program product as in claim 67 wherein the request message specifies a priority of the ~~new-SCS~~ call.

71. (Currently amended) A computer program product as in claim 70 wherein the computer code additionally:

determines if the priority associated with the ~~new-SCS~~ call is higher in priority than a priority associated with an existing call in the private network; and
if so, drops the existing call to accommodate the ~~new-SCS~~ call.

72. (Currently amended) A computer program product as in claim 67 wherein the computer code additionally:

allocates resources in the private network to accommodate the ~~new-SCS~~ call.